

What is Slurry Seal?

The principal materials used to create slurry seal are aggregate, asphalt emulsion, and filler, which are mixed together according to a laboratory's design-mix formula. Water is also added for workability.

Asphalt emulsions serve as a binder, holding the crushed aggregate together and adhering the new slurry surfacing to the old surface over which it is being applied. Various emulsions and aggregates are used to meet the conditions, specifications, and requirements of individual projects.

The aggregate must be clean, crushed, durable, properly graded, and uniform. The asphalt emulsion is a three-part system consisting of asphalt, water, and emulsifier. Fillers such as Portland cement, hydrated lime, or aluminum sulfate liquid are often used in small quantities as stabilizers or chemical modifiers.

Continuing advancements in mixing methods, emulsions and machinery have made slurry seal today's choice in providing highly durable, low cost paving and surface maintenance. As a treatment for everything from residential driveways to public roads, highways, airport runways, parking lots, and a multitude of other paved surfaces, slurry seal is now used extensively throughout the world. Local, state, and federal agencies — including the military — have a growing and ongoing commitment to the use of slurry seal in their maintenance programs, attesting to its effectiveness and economy.

How is Slurry Made?

Slurry is made in specially designed equipment, either truck-mounted or self-propelled. This equipment carries a quantity of unmixed materials which are blended together in a continuous-flow pugmill. The use of this technologically advanced machinery insures a smooth, consistently uniform mixture.

Slurry is made quickly and accurately at the project site. Mixing and spreading are accomplished in one continuous operation, with the road surface being reopened to travel within a few hours.

How is Slurry Applied?

Slurry seal is applied to an existing pavement surface by means of a spreader box linked to the surface slurry-mixing unit. Slurry is introduced into the spreader box, which then lays down the slurry coating as the mixer/spreader is driven forward.

The box is capable of spreading the slurry seal over the width of a traffic lane in a single pass, and is constructed so that close contact with the existing surface is maintained. This insures uniform application of the new coating on a variety of configurations encompassing various crowd shapes, super-elevated sections, and shoulder slopes.

Trained operators continually monitor the automatic mixing procedure. Other personnel clean the surface before slurry applications, barricade the street, inspect the operation in progress for uniformity, clean metal utility covers after application, and complete slurry seal spreading in any area inaccessible to the spreader box.

Types of Slurry

Emulsions of varying composition and setting times are mixed with any one of three grades of aggregates to create slurry seal mixes for specific purposes.

Aggregate types are I (fine), II (general), and III (coarse). Fine aggregate mixtures are used for maximum crack penetration and sealing in low-density/low-wear traffic areas. Type II aggregates are the most commonly used and are widely employed where moderate-to-heavy traffic is found. They seal, correct moderate-to-severe graveling, oxidation and loss of matrix, and improve skid resistance. Type III corrects severe surface conditions — preventing hydroplaning and providing skid resistance under very heavy traffic loads.

A slurry seal for nearly any need or condition can be custom designed to satisfy the most difficult requirements.